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REMARKS**Double Patenting**

Claims 26-27, 29, 32-34, 37, 43-44, 146, 151, 152, 155-158, 162 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 8, 19, 27, 31, 39, 40, 42, 43 of co-pending Application No. 10/346,125. Please note that co-pending Application No. 10/346,125 issued on May 17, 2005 as U.S. Patent No. 6,892,829.

Applicant will file either a Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection Over a Pending "Reference" Application or a Terminal Disclaimer to Obviate a Double Patenting Rejection Over a "Prior" Patent, depending on which disclaimer form the Examiner feels is most appropriate under the circumstances. U.S. Patent No. 6,892,829 and the present application are commonly owned.

Claims 26-51, 98, 100-119, 121-148, 150, 152, 154, 156-157, and 159-162 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 8, 14-21, 23, 28, 30-46, 51-54, and 64 of U.S. Patent No. 6,854,534. Applicant will file a Terminal Disclaimer to Obviate a Double Patenting Rejection Over a "Prior" Patent, namely, U.S. Patent No. 6,854,534. U.S. Patent No. 6,854,534 and the present application are commonly owned.

Claims Rejections – 35 USC § 102

1. Claims 52-55, 59, 60, 75 and 77 were rejected under 35 U.S.C. 102(2) as being anticipated by Hill (U.S. 6,367,566). Such rejection is traversed for the reasons now following.

With respect to claims 52-55, 59, 60, independent method claim 52 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of the production tubing string and a wall of said well

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bore, whereby pressurized clean out medium is introduced through the annulus and entrained clean out material is removed through the inner space.

As can clearly be seen in all of the Figures of Hill, clean out material is never removed through the inner space 75 of drill pipe 51. Further, as can be seen in column 7, lines 5-10, "[t]he well control fluids of this invention are circulated down the inner-annulus 72 between the inner casing and the drill pipe 51 and thereby divert the upward flowing commingled drilling mud and produced formation fluids 71 out through the open ports 27 and then up through the outer-annulus flow path 73" [emphasis added].

Thus, Hill does not teach a clean out method using a single wall production tubing string whereby clean out medium is circulated down through the well bore annulus (*i.e.*, the annulus formed between the outside of the production tubing string and the well bore wall) and up the inside of the production tubing. In summary, the particular embodiment of the invention in claim 52 is clearly patentably distinguishable over Hill. Thus, dependent claims 53, 54, 55, 59, and 60 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

With respect to claims 75 and 77, independent apparatus claim 75 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 75 is now directed to an apparatus for cleaning out material from a well bore comprising, among other elements, means communicating with said annulus (*i.e.*, the annulus formed between the outside of the production tubing string and the well bore wall) for introducing into a well bore a pressurized clean out medium through the well bore annulus and means communicating with said inner space (of the single wall production tube) for removing the material and clean out medium through the inner space to the surface of the well bore.

Hill does not teach means communicating with said inner space (of the single wall production tube) for removing the material and clean out medium through the inner space to the surface of the well bore. In summary, the particular embodiment of the invention in claim 75 is clearly patentably distinguishable over Hill. Thus, dependent claim 77 is also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

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2. Claims 52, 56-59, 61, 72, 75, 76, 78, and 79 were rejected under 35 U.S.C. 102(2) as being anticipated by Arps (U.S. 2,659,046). Such rejection is traversed for the reasons now following.

With respect to claims 52, 56-59, 61, and 72, independent method claim 52 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of the production tubing string and a wall of said well bore, whereby pressurized clean out medium is introduced through the annulus and entrained clean out material is removed through the inner space.

As can clearly be seen in Figure 1 of Arps, clean out material is not removed through the inner space of conventional hollow drill string 8. Further, as can be seen in column 5, lines 16-23, Arps teaches "mud discharge pipe 19 communicating with the drill pipe 8 through the swivel 12" and "volumetric flow of mud flowing through the discharge pipe 19 and well" [emphasis added].

Thus, Arps does not teach a clean out method using a single wall production tubing string whereby clean out medium is circulated down through the well bore annulus (i.e., the annulus formed between the outside of the production tubing string and the well bore wall) and up the inside of the production tubing. In summary, the particular embodiment of the invention in claim 52 is clearly patentably distinguishable over Arps. Thus, dependent claims 56-59, 61, and 72 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

With respect to claims 75, 76, 78, and 79, independent apparatus claim 75 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 75 is now directed to an apparatus for cleaning out material from a well bore comprising, among other elements, means communicating with said annulus (i.e., the annulus formed between the outside of the production tubing string and the well bore wall) for introducing into a well bore a pressurized clean out medium through the well bore annulus and means communicating with said inner space (of the single wall production tube) for

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removing the material and clean out medium through the inner space to the surface of the well bore.

Arps does not teach either a means communicating with said annulus for introducing clean out medium to said annulus or a means communicating with said inner space for removing material and clean out medium from said inner space. Instead, Arps teaches a mud discharge means comprising mud discharge pipe 19, which communicates with the hollow drill pipe 8 (*i.e.*, a means communication with the inner space for introducing mud into the hollow drill pipe), and a discharge nozzle 7, which removes mud from the annulus, not the inner space, to a mud pit. In summary, the particular embodiment of the invention in claim 75 is clearly patentably distinguishable over Arps. Thus, dependent claims 76, 78, and 79 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

3. Claims 52, 56-59, 61, 72, 75, 76, 78, and 79 were rejected under 35 U.S.C. 102(2) as being anticipated by Sandvig (U.S. 2,969,846). Such rejection is traversed for the reasons now following.

With respect to claims 52, 56-59, 61, and 72, independent method claim 52 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of the production tubing string and a wall of said well bore, whereby pressurized clean out medium is introduced through the annulus.

Sandvig does not teach introducing pressurized clean out medium through the annulus formed between the drill steel 13 and bore hole 25. Rather, Sandvig teaches at column 2, lines 46-49, that "drill steel 13 may include several sections suitably connected together [*sic*] as by a fluted coupling sleeve 23, the flutes 24 serving to admit large quantities of atmospheric air to bore hole 25" [emphasis added]. The mere presence of atmospheric air, which is naturally present in any down hole annulus provided, of course, that there is no obstruction blocking the annulus, is not equivalent to introducing pressurized clean out medium into the annulus. Further, as can be most clearly seen in Figure 1 of Sandvig, there is no means disclosed for delivering pressurized air through the annulus for entraining drill cuttings and the like.

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The pressurized air referred to in column 2, lines 24-30 (and lines 35-36), is used to operate a conventional pneumatically driven power tool designated as 10. Pressurized air is supplied through a flexible hose 11. Sandvig states that the "[t]ool 10 includes a main body 12 housing therewithin reciprocal piston and hammer means for imparting sharp powerful axial thrusts to a hollow drill string adapted to be detachably chucked in the lower end of the tool". Thus, the pressurized air is used to operate the reciprocal piston and hammer and is not introduced into the well bore annulus to entrain the drill cuttings, etc. In addition, a portion of the pressurized air is supplied through a flexible hose 11 to operate an ejector assembly 16 mounted in backhead 17 of the tool. None of the pressurized air is introduced into the well bore annulus.

In summary, Sandvig does not teach the step of introducing into said well bore a pressurized clean out medium through said annulus. Thus, the particular embodiment of the invention in claim 52 is clearly patentably distinguishable over Sandvig. Similarly, dependent claims 56-59, 61, and 72 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

With respect to claims 75, 76, 78, and 79, independent apparatus claim 75 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 75 is directed to an apparatus for cleaning out material from a well bore comprising, among other elements, means communicating with said annulus (i.e., the annulus formed between the outside of the production tubing string and the well bore wall) for introducing into a well bore a pressurized clean out medium through the well bore annulus.

Sandvig does not teach a means communicating with said annulus for introducing into said well bore a pressurized clean out medium through said annulus. Instead, Sandvig relies on atmospheric air to be admitted into the bore hole annulus without the assistance of any introducing means. Thus, the particular embodiment of the invention in claim 75 is clearly patentably distinguishable over Sandvig. Thus, dependent claims 76, 78, and 79 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

4. Claims 75, 77, 91-93, and 96-97 were rejected under 35 U.S.C. 102(2) as being anticipated by Kolle (U.S. 6,347,675). Such rejection is traversed for the reasons now following.

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Independent apparatus claim 75 has been amended to more clearly define the particular embodiment of the invention sought to be protected by it. In particular, claim 75 is now directed to an apparatus for cleaning out material from a well bore comprising, among other elements, means communicating with said annulus (i.e., the annulus formed between the outside of the production tubing string and the well bore wall) for introducing into a well bore a pressurized clean out medium through the well bore annulus and means communicating with said inner space (of the single wall production tube) for removing the material and clean out medium through the inner space to the surface of the well bore.

Kolle does not teach either a means communicating with said annulus for introducing clean out medium to said annulus or a means communicating with said inner space for removing material and clean out medium from said inner space. Instead, Kolle teaches a liquid CO₂ pump 36 which pumps CO₂ into coiled tubing 12 (see, in particular, column 7, lines 3-5 and lines 17-18). Further, the spent CO₂ ascends up borehole 18 (annulus) to the surface to be vented through a chock manifold 22 (see column 7, lines 43-45). In summary, the particular embodiment of the invention in claim 75 is clearly patentably distinguishable over Kolle. Thus, dependent claims 76, 78, and 79 are also not anticipated by this prior art reference. Favorable reconsideration is respectfully requested.

Claim Rejections – 35 U.S.C. 103

5. Claims 62 and 80 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandvig ('846) in view of Kunnemann ('618). Such rejection is traversed for the reasons now following.

With respect to claim 62, which depends on amended method claim 52, as stated above, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of the production tubing string and a wall of said well bore, whereby pressurized clean out medium is introduced through the annulus and entrained clean out material is removed through the inner space.

Sandvig does not teach the step of introducing into said well bore a pressurized clean out medium through the annulus formed between the single wall tubing string and well bore wall

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and, as such, does not teach any means for doing so, including a discharging means. The pressurized air referred to in Sandvig at column 2, lines 35-36 (and lines 24-30), is used to operate the power tool designated as 10. In addition, a portion of the pressurized air is supplied through a flexible hose 11 to operate an ejector assembly 16 mounted in backhead 17 of the tool. None of the pressurized air is introduced into the well bore annulus.

Further, as the Examiner points out, Kunnemann teaches using a compressor to supply compressed air to a production string and not to an annulus formed between a production string and a well bore wall. Thus, the combination of Sandvig and Kunnemann would not result in the invention as claimed in claim 62.

Finally, claim 62 is directed to a clean out method including the step of delivering into a well bore a single wall production tubing string. Kunnemann it directed towards the use of a concentric tubing string. Hence, Kunnemann does not teach delivering into said well bore a single wall production tubing string. Thus, there is no suggestion, teaching or motivation to combine Kunnemann with Sandvig. Favorable reconsideration is respectfully requested.

Similarly, with respect to claim 80, which depends on claim 75, as previously mentioned, Sandvig does not teach a means communicating with the well bore annulus for introducing into the well bore a pressurized clean out medium through the annulus, comprising a discharging compressor. Furthermore, Kunnemann does not teach a means communicating with the well bore annulus for introducing into the well bore a pressurized clean out medium through the annulus, comprising a discharging compressor. Thus, combining Sandvig with Kunnemann would not result in the invention as claimed in claim 80. Favorable reconsideration is respectfully requested.

6. Claims 63-64 and 81-82 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandvig ('846) in view of Sinclair ('515). Such rejection is traversed for the reasons now following.

Claims 63-64 depend on method claim 52. As stated above, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of

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the production tubing string and a wall of said well bore, whereby pressurized clean out medium is introduced through the annulus and entrained clean out material is removed through the inner space.

Sinclair teaches a dry, vertical shaft drilling system where a "first compressor 36 injects compressed air into the interior of the drill string and down toward the bottom of the cutterhead 12" and a "second compressor 38 [which] draws a vacuum in the riser pipes 18 through a dust collector 40" [see column 2, lines 55-59; emphasis added]. Thus, there is no suggestion, teaching or motivation to combine Sinclair with Sandvig as Sinclair clearly does not teach removing entrained cuttings, etc. by means of a suction compressor through the inner space of the drill string. In addition, as previously mentioned, Sandvig also does not teach introducing pressurized clean out material through the well bore annulus. Thus, combining Sandvig with Sinclair would not result in the invention as claimed in claims 63-64. Favorable reconsideration is respectfully requested.

Similarly, with respect to claims 81-82, which depend on claim 75, Sinclair does not teach a suction compressor which communicates with the inner space of the drill string for removing material and clean out medium through the inner space. Thus, there is no suggestion, teaching or motivation to combine Sinclair with Sandvig. Further, Sandvig does not teach means communicating with said annulus for introducing pressurized clean out material through the well bore annulus. Thus, combining Sandvig with Sinclair would not result in the invention as claimed in claims 81-82. Favorable reconsideration is respectfully requested.

7. Claims 74, 90, 167 and 172 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandvig ('846) in view of Gardes (U.S. 5,720,356). Claims 167 and 172 have been cancelled. Rejection of claims 74 and 90 is traversed for the reasons now following.

With respect to claim 74, which depends on method claim 52, as stated above, claim 52 is now directed to a clean out method including the step of delivering into a well bore a single wall production tubing string having an inner space and an outer wall and forming an annulus between the outer wall of the production tubing string and a wall of said well bore, whereby pressurized clean out medium is introduced through the annulus and entrained clean out material is removed through the inner space.

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Sandvig does not teach the step of introducing into said well bore a pressurized clean out medium through the annulus formed between the single wall tubing string and well bore wall and, as such, does not teach any means for doing so, including a discharging means. Element 11 (flexible hose) is not a discharging means for introducing pressurized clean out medium through the annulus, as suggested by the Examiner. Rather, flexible hose 11 supplies pressurized air to operate the pneumatically operated power tool designated as 10 (see column 2, lines 26-26). In addition, a portion of the pressurized air is supplied through a flexible hose 11 to operate an ejector assembly 16 mounted in backhead 17 of the tool (see column 2, lines 35-38). Thus, Sandvig does not teach introducing pressurized clean out medium into the well bore annulus by means of flexible hose 11.

In addition, Gardes does not teach the removal of entrained clean out material through the inner space. Rather, Gardes teaches coil tubing 12, having a continuous bore therethrough, "so that fluid may be pumped via a second pump 79 (see FIG. 6) through the coil tubing bore 13 in order to drive the 3 $\frac{3}{4}$ " mud motor and drive the 4 $\frac{3}{4}$ " bit 46" (see column 6, lines 4-8).

Thus, there is no suggestion, teaching or motivation to combine Gardes with Sandvig. The combining of Gardes with Sandvig would not result in the invention as claimed in claim 74. Favorable reconsideration is respectfully requested.

Similarly, with respect to claim 90, which depends on claim 75, as mentioned above, Sandvig does not teach a means communicating with the well bore annulus for introducing into the well bore a pressurized clean out medium through the annulus. Element 11 (flexible hose) is not a means for introducing pressurized clean out medium through the annulus. Furthermore, Gardes does not teach a means communicating with the inner space for removing said material and clean out medium through the inner space of said production tubing string. Thus, combining Sandvig with Gardes would not result in the invention as claimed in claim 90. Favorable reconsideration is respectfully requested.

8. Claims 95-96 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kolle ('675) in view of Smet ('223). Such rejection is traversed for the reasons now following.

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Claims 94-95 are both dependent on claim 75. Amended claim 75 is now directed to an apparatus for cleaning out material from a well bore comprising, among other elements, means communicating with said annulus (i.e., the annulus formed between the outside of the production tubing string and the well bore wall) for introducing into a well bore a pressurized clean out medium through the well bore annulus and means communicating with said inner space (of the single wall production tube) for removing the material and clean out medium through the inner space to the surface of the well bore.

Kolle does not teach either a means communicating with said annulus for introducing clean out medium to said annulus or a means communicating with said inner space for removing material and clean out medium from said inner space. Instead, Kolle teaches a liquid CO₂ pump 36 which pumps CO₂ into coiled tubing 12 (see, in particular, column 7, lines 3-5 and lines 17-18). Further, the spent CO₂ ascends up borehole 18 (annulus) to the surface to be vented through a chock manifold 22 (see column 7, lines 43-45).

Smet does not teach a single wall production tubing string. Furthermore, Smet does not teach a means communicating with said annulus for introducing clean out medium to said annulus. Thus, the combining of Kolle with Smet would not result in the invention as claimed in claims 94-95. Favorable reconsideration is respectfully requested.

In view of the arguments presented by Applicant herein, Applicant submits that the new claims of the present application are in a condition for allowance and such allowance is respectfully requested.

Respectfully submitted,


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